Amendments to the Specification:

Please replace the second full paragraph of page 1 with the following amended paragraph:

Such a method is disclosed in GB 2070648, which is based on the knowledge that in a water level controlled program cycle of a washing machine the quantity of water supplied constitutes a measure of the absorbability of the washing and, with the same type of washing, is also a measure for the weight of the washing. Such known method cannot give optimal results since the number of refilling operations for keeping the water level around a nominal level of water in the tub makes such method very time consuming.

Please replace the third full paragraph of page 1 with the following amended paragraph:

The method according to the present invention does overcome the above technical problems and ~~guaranties~~ guarantees a minimum performance water level and safety control. According to such new method, the load detection and the time in which water (according to the detected load) is fed in the drum is very quick if compared to the known methods.

Please replace blank page 2 of the application as filed with the following inadvertently omitted paragraphs submitted by amendment under 37 CFR §1.57(a):

$$\text{Absorbed Water } (A_w) = \text{Filled Water} - \text{Free Water}$$

Even if this equation is not completely true because in a small part of the drum, in which the load is immersed in the water, there is interaction between the absorbed water and the free water, the equation is respecting the physics with a good approximation. With reference to A_w two concepts are well known: the higher is the load quantity the higher is the water absorbed, and cotton load absorbs more water than synthetics and less water than terry towel. Therefore it is evident that the methodology of estimating the load

quantity via the absorption is heavily affected by the textile, i.e. 7 liters can be absorbed by 3 kg of standard IEC (International Electrotechnical Commission) cotton or by 5kg of synthetics or by 1.75kg of terry towel. As the textile identification technology is not yet a real need and would render too complex the control program, the method according to the present invention puts water absorption into relationship with the standard IEC cotton and the estimated load quantity as "cotton equivalent" load. Once the A_w is computed, the load quantity, cotton equivalent, can be estimated via the following relation:

$$A_w = \text{Load Equivalent} * K$$

$$\text{Load Equivalent} = A_w * 1/K$$

Where K [Liters/Kg] identifies a particular condition of the load with reference to the set contour conditions. This parameter is called "specific absorption" SA and it is a characteristic of every specific laundry load. The correlation which links free water to water level in the tub is determined experimentally by introducing a known increasing water quantity in the empty tub of a washing machine, with drum motor off, and recording the correspondent water level that is measured by the continuous water level pressure sensor (CWL). Doing that, the characteristic liters added vs. water level (including mechanics geometry, air trap, sensor) is obtained. The equation that establishes the relation between the water level detected by the sensor [mm] and the free water volume in the tub may be determined by known interpolation techniques starting from the experimental curve, mainly in order to save computation time.

In case of no load, this equation provides the total amount of filled water: "liter in". In case of presence of laundry inside the drum, the difference:

Please replace the second full paragraph of page 3 with the following amended paragraph:

Thanks to the above tests, the applicant discovered that in the range of the water used, the higher is the water amount supplied to the tub, the higher is the absorbed water

and the free water. In other words, the applicant discovered that the specific absorption SA is water ~~filled~~ fill dependent or, in another way, the specific absorption SA is free water dependent. This fact has important consequences in ~~term~~ terms of finding the best way for controlling the program of a washing machine. With a fixed amount of laundry, the applicant has prepared a diagram (and related computerized algorithm) that links the specific absorption SA to the water supplied to the tub and to the free water.

Please replace the description of Figure 2 on page 4 with the following amended description:

Figure 2 is a diagram showing the specific absorption vs. ~~adsorbed~~ absorbed water, such diagram being used in the method according to the invention,

Please replace the last paragraph of page 4 with the following amended papargraph:

In a washing machine according to the invention, a flow meter 10 in the water supply line and a continuous water level sensor 12 are used, so that two pieces of information can be directly measured and one can be deduced, i.e.:

Please replace the first full paragraph of page 7 with the following amended paragraph:

The total filling completion time varies, for the 7kg load, from 250 sec to 450 seconds. The final load quantity parameter, used for controlling the program i.e. rhythm, washing speed, washing duration, unbalance detection, inertia detection, rinse number, water to be use in rinses, spinning speed, ect. has been detected after a reasonable time in which the water level is almost steady. According to a further feature of the present invention, it is provided a method for checking a possible failure of the pressure sensor by means of a check of the pressure value. In case the pressure information is not in the predetermined range~~rage~~, established by the sensor supplier, a failure message is provided to the central processor unit 13 of the washing machine. Figure 6 represents an

example of the pressure sensor failure check. The expected rage value of the sensor, that provides a voltage output Vp signal, is for instance from 0.5 Volt to 3.5 Volt. In case the sampled value is above 3.5V, it is expected to have the sensor "open", in case it is below 0.5V, "short circuit" condition is expected. It will be "in range" if none of the said conditions are detected. "Sensor State" represents a variable to which the sensor condition is assigned. The "P=Water Pressure" variable is obtained by converting the signal read by the pressure sensor (in this example voltage) in pressure, indicating the millimeter of water column. Ks and Os represent the Gain and the Offset values given by the sensor supplier.

Please replace the second full paragraph of page 7 with the following amended paragraph:

Once the signal, coming from the pressure sensor, is considered to be in the admissible range, an additional check, regarding the total filled water amount, is here proposed. The main purpose of the present safety control, shown in Figure 7, is to switch off the valve and ~~stopping~~ stop the water flowing in case an abnormal water quantity is filled in or in case the valve is opened for a long time. The detected failure will then be processed up to inform the user that a water leakage ~~is~~ has occurred or the valve is blocked in its open condition.

Please replace the last paragraph of page 7 extending to the top of page 8 with the following amended paragraph:

In the block diagram a check of the valve state is carried out: open or close is done. In case the valve is open, a variable "TimeOV" is incremented so that its value indicates the incremental valve opening time. MaxTimeOV represents a time limit, determined by the control design; in case TimeOV exceeds the time limit, a failure indication will be generated. TimeOV is set to zero in case the valve is close meaning that the load detection algorithm has established that the right filled water quantity is provided to the estimated load quantity. In the block diagram the check of the total water

filled in is also included. The total amount of water filled: "Liter IN", data provided by the flow meter, is always processed and in the case where it exceeds a predetermined value MaxLiterIN, a failure indication will be generated.

Please replace the second full paragraph of page 8 with the following amended paragraph:

The block diagram of Figure 8 shows that every time the control is executed, a counter is incrementing its value in case the Sensor State is “in Range”. Every certain number of pressure sensor readings, in the example 160, the evaluation of the acquired ~~date~~ data is done. The "Sum Variation" variable includes the sum of 160 values; each value represents the "Delta Pressure" value (difference between actual P2=P and previous P1 measure, positive and negative variations are considered all positives). It is in fact expected that during the washing or rinsing phases, in which the drum is tumbling, the water level varies due to the elevators and the load movement. This small variation is accumulated (i.e.160 values) to have this data more consistent. The "Sum Variation" is then processed and compared to a predetermined value "AliveValue". In case "Sum Variation" is considered too small, a failure of the pressure sensor is detected and an alarm signal is provided to the user.

Please replace the last paragraph of page 8 extending to the top of page 9 with the following amended paragraph:

The chart of Figure 9 shows an example of water pressure behavior and its filtering signal during a washing cycle. In the first phase there ~~is the~~are water ~~fillings~~ fills according to the load detection algorithm. The total water filled is also plotted. The filling is concluded after a certain time (about 250 seconds) and small load absorption is then observed by the decreasing of the water level. We can consider a stable condition after a reasonable time i.e. 100-200 seconds starting from the last filling completion. The measured Water level in steady state condition is so stored in memory as a reference value: WLRV.